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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/990,207	11/20/2001	Pawel Drabarek	10191/2066	3531

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EXAMINER

LYONS, MICHAEL A

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/990,207

Applicant(s)

DRABAREK, PAWEL

Examiner

Michael A. Lyons

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2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 9-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: “the surface characteristics, distances, distance variations, and vibrations” as disclosed in lines 3-4 of the claim. The quoted phrase of the claim refers to the preamble of the parent claim, leading to the lack of structure.

Claims 7-8 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: “an (the) interferometer” in line 2 of each claim. The interferometer is only mentioned in the preamble of the parent claim, claim 1, leading to the lack of structure in the claim as it is unclear as to exactly what interferometer is being referred to by the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, and 13-14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Rumbaugh (5,101,453).

Regarding claims 1 and 14, Rumbaugh (Fig. 1) discloses an optical probe 10 having a measuring head at the portion extending from the hinge at 10a to a probe tip 12, with optical fiber 16 extending outward from probe tip 12 as a free end with a probing end 16a for illuminating a surface under test.

As for claim 3, probing end 16a of the fiber illuminates the object being measured.

As for claim 13, the probe includes a fixed probe part to the right of hinge 10a in Fig. 1, and a rotating probe part that rotates and moves around hinge 10a.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-6, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rumbaugh (5,101,453).

As for claim 2, Rumbaugh discloses using the probe to measure the surface of a wafer, but not the surface of the inside of a borehole or other hollow object. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the probe to measure the surfaces of a hollow object, as such use would make no functional change to the use of the probe.

As for claims 4 and 15, Official Notice is taken as to the common practice of beveling the end of a fiber, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to bevel the fiber, as angling the face of the fiber will allow for easier direct contact with the side of

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the object to be measured. The angling of the fiber will reflect the light off of the beveled portion of the fiber directly to the flat face of the fiber being used to affect measurements of the object to be measured.

As for claim 5, Official Notice is taken as to the common practice of putting a drop of adhesive on the end of a fiber, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to add the adhesive drop, as the drop of adhesive allows the fiber to be placed or joined on another object so light may be transmitted without a significant loss due to the joining.

As for claim 6, Official Notice is taken as to the common practice of using monomode optical fibers in various measurements, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a monomode fiber because the light propagating through the monomode fiber can have orthogonal polarization and not lose power during propagation through the fiber.

Allowable Subject Matter

Claims 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 9-12, the prior art of record, taken either alone or in combination, fails to disclose or render obvious a fiber probe with a beam splitter contained in the probe to generate a reference beam and a measurement beam within the probe, these beams then being used with a modulation interferometer to further carry out measurements associated with the use of the probe, in combination with the rest of the limitations of the claims.

Response to Arguments

Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection. With regards to the applicant's request of a reference supporting the use

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of a drop of adhesive on a fiber, please see US Pat. No. 5,381,504 to Novack et al., an optical fiber element having a permanent protective coating.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 703-305-1933. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 703-308-4877. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0935.

MAL
August 27, 2003



Frank G. Font
Supervisory Patent Examiner
Technology Center 2800